

What is claimed is:

1. A digital-to-analog audio converter comprising:
a non-oversampling digital-to-analog conversion stage
adapted to
 - (i) receive a digital audio signal that comprises a plurality of digitally quantized samples of an audio stream,
 - (ii) evaluate the digital audio signal, absent oversampling, to convert the digitally quantized samples into analog samples, and
 - (iii) generate an analog audio signal comprising the analog samples, the analog audio signal corresponding to the audio stream;
an output stage to perform current-to-voltage conversion of the analog audio signal and lowpass filter the analog audio signal with a corner frequency of at least about 30 kHz; and
a power supply to provide electrical power to one or more of the digital-to-analog conversion stage and the current-to-voltage output stage.
2. A digital-to-analog audio converter according to claim 1 wherein the output stage is adapted to lowpass filter the analog audio signal at an attenuation rate of less than about 80 dB/decade.
3. A digital-to-analog audio converter according to claim 1 wherein the output stage is a solid state output stage comprising a solid state electronic component.
4. A digital-to-analog audio converter according to claim 3 wherein the solid state output stage is adapted to operate in a continuously-biased mode.
5. A digital-to-analog audio converter according to claim 3 wherein the solid state output stage has an output impedance of less than about 1.5 kOhm.

6. A digital-to-analog audio converter comprising:
- a digital-to-analog conversion stage to convert a digital audio signal to an analog audio signal;
 - an output stage to perform current-to-voltage conversion of the analog audio signal; and
 - a battery power supply to provide electrical power to one or more of the digital-to-analog conversion stage and the output stage, the battery power supply comprising
 - (i) a rechargeable electrical cell, the rechargeable electrical cell being adapted to repeatedly release and acquire electrical energy, and
 - (ii) a selector switch adapted to be set in operation such that
 - (a) when the selector switch is set to a first mode, the rechargeable electrical cell couples to one or more of the digital-to-analog conversion stage and the output stage, and
 - (b) when the selector switch is set to a second mode, the power supply couples to a power source to recharge the rechargeable electrical cell.

7. A digital-to-analog audio converter according to claim 6 wherein the rechargeable electrical cell comprises a sealed lead-acid battery.

8. A digital-to-analog audio converter comprising:
a non-oversampling digital-to-analog conversion stage
adapted to
- (i) receive a digital audio signal that comprises a plurality of digitally quantized samples of an audio stream,
 - (ii) evaluate the digital audio signal, absent oversampling, to convert the digitally quantized samples into analog samples, and
 - (iii) generate an analog audio signal comprising the analog samples, the analog audio signal corresponding to the audio stream;
- an output stage to perform current-to-voltage conversion of the analog audio signal; and
- a battery power supply, the battery power supply comprising a battery, to provide electrical power to one or more of the digital-to-analog conversion stage and the output stage.
9. A digital-to-analog audio converter according to claim 8 wherein the output stage is a solid state output stage.
10. A digital-to-analog audio converter according to claim 8 wherein the battery comprises a rechargeable electrical cell, the rechargeable electrical cell being adapted to repeatedly release and acquire electrical energy.

11. A digital-to-analog audio converter according to claim 10 wherein the battery power supply comprises a selector switch adapted to be set in operation such that

(i) when the selector switch is set to a first mode, the battery power supply couples to one or more of the digital-to-analog conversion stage and the output stage, and

(ii) when the selector switch is set to a second mode, the battery power supply couples to a power source to recharge the rechargeable electrical cell.

12. A method of converting a digital audio signal to an analog audio signal, the method comprising:
- (a) receiving a digital audio signal that comprises a plurality of digitally quantized samples of an audio stream;
 - (b) evaluating the digital audio signal, absent oversampling, to convert the digitally quantized samples into analog samples;
 - (c) generating an analog audio signal comprising the analog samples, the analog audio signal corresponding to the audio stream;
 - (d) performing current-to-voltage conversion of the analog audio signal; and
 - (e) lowpass filtering the analog audio signal with a corner frequency of at least about 30 kHz.
13. A method according to claim 12 wherein (e) comprises lowpass filtering the analog audio signal at an attenuation rate of less than about 80 dB/decade.
14. A method according to claim 12 wherein (d) comprises transmitting the analog audio signal through a solid state electronic component.
15. A method according to claim 14 wherein (d) comprises performing current-to-voltage conversion of the analog audio signal in a continuously-biased mode.

16. A method of converting a digital audio signal to an analog audio signal, the method comprising:

- (a) receiving a digital audio signal that comprises a plurality of digitally quantized samples of an audio stream;
- (b) evaluating the digital audio signal to convert the digitally quantized samples into analog samples;
- (c) generating an analog audio signal comprising the analog samples, the analog audio signal corresponding to the audio stream;
- (d) performing a current-to-voltage conversion of the analog audio signal;
- (e) providing a rechargeable electrical cell adapted to repeatedly release and acquire electrical energy; and
- (f) selecting
 - (i) a first mode to perform one or more of (b), (c), and (d) under the electrical power of the rechargeable electrical cell, and
 - (ii) a second mode to couple a power source to the rechargeable electrical cell to recharge the rechargeable electrical cell.

17. A method according to claim 16 wherein (e) comprises providing a sealed lead-acid battery.

18. A method of converting a digital audio signal to an analog audio signal, the method comprising:

- (a) receiving a digital audio signal that comprises a plurality of digitally quantized samples of an audio stream;
- (b) evaluating the digital audio signal, absent oversampling, to convert the digitally quantized samples into analog samples;
- (c) generating an analog audio signal comprising the analog samples, the analog audio signal corresponding to the audio stream;
- (d) performing a current-to-voltage conversion of the analog audio signal; and
- (e) chemically generating direct-current electrical power to power one or more of (b), (c), and (d).

19. A method according to claim 18 wherein (d) comprises transmitting the analog audio signal through a solid state electronic component.

20. A method according to claim 18 wherein (e) comprises providing a rechargeable electrical cell adapted to repeatedly release and acquire electrical energy.

21. A method according to claim 20 further comprising selecting

- (i) a first mode to perform one or more of (a), (b), and (d) under the electrical power of the rechargeable electrical cell, and
- (ii) a second mode to couple a power source to the rechargeable electrical cell to recharge the rechargeable electrical cell.